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# The Influence of Spatial Distance Priming on Test Anxiety and Judgments

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THE INFLUENCE OF SPATIAL DISTANCE PRIMING ON TEST ANXIETY AND  
JUDGMENTS

A Thesis  
Presented to  
The Faculty of the Department of Psychology  
Western Kentucky University  
Bowling Green Kentucky


In Partial Fulfillment  
Of the Requirements for the Degree  
Masters of Arts

By  
Eric R Raap

May 2013

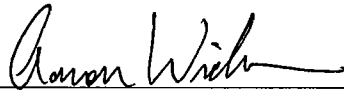
THE INFLUENCE OF SPATIAL DISTANCE PRIMING ON TEST ANXIETY AND  
JUDGMENTS

Date Recommended: 04/02/2013



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Dr. Qin Zhao, Director of Thesis



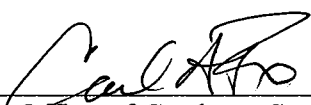
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Dr. Aaron Wichman



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Dr. Andrew Mienaltowski



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Dean, Office of Graduate Studies and Research

4/26/13

Date

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# THE INFLUENCE OF SPATIAL DISTANCE PRIMING ON TEST ANXIETY AND JUDGMENTS

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May 2013

Pages 29

Directed By: Qin Zhao, Aaron Wichman, Andrew Mienaltowski

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This paper examined the effects of distance priming on test anxiety and judgment.

Research suggests that individuals' perceived distance can impact their affect and judgments, which sheds light on the principle of "distance equals safety" (Williams & Bargh, 2008). Taking an exam invokes both cognitive and emotional anxiety, such as worry, panic, and tension. It is hypothesized that the distance priming may reduce test anxiety—particularly, the emotionality aspect—as well as perceived test difficulty. The results showed that, counter to the hypotheses, there was no significant difference among the three priming groups in their emotional test anxiety or perceived test difficulty. There is a significant correlation between ACT score and cognitive test anxiety, supporting past literature that as one's intellectual ability increases, their cognitive test anxiety decreases. Further research needs to be conducted to replicate the efficacy of the priming method by Williams and Bargh (2008) and to use more effective ways of provoking performance anxiety.

## **Introduction**

Can perceived spatial or temporal distance affect students' level of anxiety and judgment toward exams? Past research has shown that psychological distance affects people's mental representation, judgment, and behavior (e.g. Davis, Gross, & Ochsner, 2011; Muhlberger, Neuman, Wiser, & Pauli, 2008; Trope, Liberman, & Wakslak, 2007). Recent research also suggests that psychological distance impacts people's emotional experiences (e.g. Thomas & Tsai, 2011; Williams & Bargh, 2008). The present research is aimed to further the research on perceived distance by examining the impact of distance priming on emotion and judgment in performance situations, specifically on test anxiety and test judgments. It is estimated that 20-30% of American students suffer from test anxiety (Strauss, 2002). By inducing a sense of distance, one may be able to lower students' level of test anxiety and their judgments of test difficulty.

### *Psychological Distance and Construal Level*

The nature of psychological distance has been mainly explained by the framework of Construal Level Theory (CLT; Trope & Liberman, 2003), which links psychological distance and the level of mental construal. According to CLT, objects, events, or individuals can be perceived as either distant or close. For example, researchers have asked participants to describe one's current life now or how their life may be in the future (temporal distance; Wakslak, Nussbaum, Liberman, & Trope, 2008), perceive someone more or less similar to oneself (social distance; Liviatan, Trope, & Liberman, 2008), describe the likelihood of an event or situation happening in one's future (probability distance; Wakslak, Trope, Liberman, & Alony, 2006), and perceive events occurring at a near or distant location (spatial distance; Henderson, Fujita, Trope, & Liberman, 2006) to elucidate a feeling of distance or closeness.

People tend to think about distant objects, events, or individuals more abstractly and at a higher-level construal, whereas they think about close objects, events, or individuals more concretely and at a lower-level of construal. High levels of construal have what are called essential or central characteristics and are de-contextualized representations that extract the gist from the available information; however, low levels of construal are peripheral characteristics and are contextualized representations that include subordinate and incidental features of events (e.g. Fujita, Henderson, Eng, Trope, & Liberman, 2006; Liberman & Trope, 1998; Smith & Trope, 2006; Trope & Liberman, 2003; 2010). As an example, consider the statement: do you see the forest or the trees? A high-level construal would be the entire forest, whereas a low-level construal would be individual trees. To illustrate this further, take the example of washing clothes: a high-level construal could be removing odors, whereas a low level construal could be placing the clothes into the machine (Fujita et al., 2006).

Research also suggests a bi-directional association between distance and mental representations of events (Henderson & Wakslak, 2010). If individuals perceive greater distance, for example moving in a year from now compared to tomorrow, they are more likely to represent the situation in more abstract and de-contextualized terms. Likewise, if individuals' representations are abstract and de-contextualized, they will more likely to perceive greater distance. If a situation is described in vague and abstract terms, such as getting something to eat compared pulling an apple off a branch, one will more likely perceive greater distance.

CLT explains important findings on the behavioral consequences of psychological distance. Throughout behavioral sciences, the consequences of perceived distance have

been studied in areas such as decision making (e.g. Benzion, Rappoport, & Yagil, 1989; Loewenstein, 1987), delay of gratification (e.g. Mischel, 1974; Mischel, Gruesec, & Masters, 1969), self-control (e.g., Baumeister & Heatherton, 1996; Rachlin, 1995), cooperation (Sanna, Chang, Parks, & Kennedy, 2009), and creativity (e.g. Forster, Friedman, & Liberman, 2004). For instance, Jia, Hirt, and Karpen (2009) showed that portraying a creative problem-solving task as originating from a far, rather than close, location resulted in more abstract mental construal of the task. This, in turn, facilitated people's creative performance on the task. In another example, Fujita, Trope, Liberman, and Levin-Sagi (2006) evoked an abstract construal in some individuals by asking them to consider why, rather than how, they would perform a certain behavior. Abstract mental construal improved these individuals' self-control ability, such that the participants preferred larger rewards in the future rather than smaller immediate rewards.

Construal-level theorists have used the term “psychological distance” to include various forms of perceived distance, such as spatial, temporal, social, and probability distance (e.g. Fujita et al., 2006; Liviatan, Trope, & Liberman, 2008). The term “distance” has been conceptualized as the space between the self and some other place, person, or point in time, that is, with reference to the self (e.g. Wakslak et al., 2006). Research suggests that the different domains of distance are interrelated and have similar effects on mental construal and behavior (Trope & Liberman, 2010). However, more recent research has taken a new look at psychological distance and shown effects that are beyond the scope of CLT (e.g. Muhlberger et al., 2008). The new look at psychological distance examines the emotional nature of psychological distance activated by spatial distance priming. Williams and Bargh (2008) argued that spatial distance is actually the

foundation for the later-developed concept of psychological distance and demonstrated that spatial distance, with or without reference to the self, can activate feelings of distance and impact people's emotional experiences.

### *Spatial Distance and Emotional Experiences*

The new look at psychological distance examined the link between physical distance and emotional experiences. It sheds light on the principle of “distance equals safety” (e.g. Davis et al., 2011; Thomas & Tsai, 2011; Williams & Bargh, 2008). This can be thought of in a primitive manner: placing more distance between themselves and something dangerous elucidates feelings of safety. For instance, Williams and Bargh (2008) discovered that physical distance cues without reference to the self could influence people's affect and judgment. For their priming of distance, the researchers had participants mark two points on a Cartesian plane and draw a line connecting them. The points would either be close, intermediate, or distant from each other. They were the first to use this form of distance priming. In one of their experiments, the researchers had participants read a story from a book describing a violent scene. They found that the participants primed with greater distance rated the scene less negatively, compared to those in the spatially closer conditions. In another experiment, when participants were asked to rate caloric content in food, participants in the distance condition rated the unhealthy food to have fewer calories, relative to those in the closer conditions. However, there was no significant difference among the distance-priming groups in estimates of caloric content for the healthy food. This interaction suggests that the priming of spatial distance can minimize the affect-laden features of unhealthy food. Thus, in line with the

“distance equals safety” principle, the unhealthy foods were seen as healthier when primed with distance, compared to when primed with closeness.

Other research with different priming methods of physical distance has also found a relationship between perceived physical distance and emotion (e.g. Davis et al., 2011; Muhlberger et al., 2008). Muhlberger et al. (2008) tested if negative pictures were viewed differently when moving towards or away from the participants. They discovered that negative emotion-eliciting scenes approaching the participants intensified the associated felt emotion, whereas the scenes moving away from the participants weakened the associated feeling. Davis and colleagues (2011) took it a step further by asking participants to imagine the scene moving away or towards them. Again, participants rated negative scenes as less negative and less emotionally arousing when they imagined them moving away, and the opposite for imagining them moving towards the participants. Both of these studies hold true to the notion of “distance equals safety:” As the negative scene is moving away, the participants view it as less threatening.

In addition to emotional experiences, increasing one’s perceived physical distance has been found to affect a type of metacognitive experience such as feeling or sense of difficulty. Thomas and Tsai (2011) manipulated physical distance by instructing participants to physically lean forward or backwards in their chair during task performance. The task included a pronunciation task of 36 strings of letters. Some included words (simple task) and others included non-words (complex task). It was discovered that distance mitigates feelings of difficulty on complex tasks but not on simple tasks. In addition, participants who were more anxious about the task experienced greater difficulty, but increasing one’s perceived distance was found to reduce this effect.

The finding that the distance manipulation worked only when the task was complex is in line with the principle of “distance equals safety,” because one will not feel threatened when a task is easy.

In all, these recent studies demonstrate an underlying principle of “distance equals safety.” Distance cues in the physical environment shape one’s judgments and affective experiences. If one is presented with spatial distance cues in the environment or perceives distance between themselves and something they regard as a possible threat, it reduces negative feelings and judgment toward the target.

### *Test Anxiety*

The present study examines the effects of distance priming on test anxiety and judgments. Test anxiety is defined as “a set of phenomenological, physiological, and behavioral responses that accompany concern about possible negative consequences or failure on an exam or similar situation” (Zeidner, 1998). Anxiety is a normal part of a reaction to a stressful situation (Connolly, Simpson, & Petty, 2006). In general, anxiety allows people to react quickly and prevents people from becoming hurt in dangerous situations or when there is a perceived threat (Cowden, 2010). However, anxiety is viewed as a negative phenomenon when it starts to impair performance upon assessments.

Test anxiety is a complex phenomenon with multiple facets, but it can be broken down into two distinct components: cognitive and emotionality aspects (Cassady & Johnson, 2002). The cognitive, or worry, portion contains the deliberating thoughts or concerns of the test taker that happen before, during, or after the test. It is mainly composed of cognitive reactions to evaluative situations and can be described as internal

dialogue, where individuals experiencing high levels of anxiety also have trouble dealing with competing thoughts that are disrupting them from focusing upon the test itself.

These thoughts may include concerns over evaluation, failure, or comparing performance among peers (Borkovec, 1994). The emotionality aspect refers to individuals' subjective awareness of the heightened physiological arousal, such as feelings of panic, increased skin conductance, and increased heart rate (Bonaccio, Reeve, & Winford, 2012). Both of these components hold unique properties and may play a different role in intellectual performance.

The cognitive aspect has been consistently associated with a decline in performance (Humbree, 1988). For example, path analyses showed that the path from cognitive anxiety to academic achievement is significant, unlike the path from emotional anxiety to academic achievement (Bandalos, Yates, & Thronkike-Christ, 1995; Williams, 1991). In addition, some experimental data reveal the negative effect of cognitive test anxiety on test performance. Kurosawa and Harackiewicz (1995) found that when there was added evaluative stress to performance, participants with higher test anxiety made significantly more errors than those with lower test anxiety. However, when participants did not have any added evaluative stress, those with higher test anxiety performed better than those with naturally lower anxiety. Knowing that their performance was going to be evaluated likely increased self-awareness and worry for the students, which involve the cognitive aspect of anxiety. As to the emotionality aspect of test anxiety, Cassady and Johnson (2002) have found that participants who reported an average level of emotionality produced better performance than those who reported high emotionality. The researchers interpreted the finding as consistent with the arousal theory. A moderate



level of anxious physiological arousal may be optimal for performance, whereas too high or too low of arousal could either distract individuals from focusing on the task (Glenn, 1980) or make them fail to recognize the challenge of the task and thus under-prepared for it (Schwarzer, 1986). In all, available research suggests that cognitive anxiety impairs intellectual performance whereas a moderate level of emotional anxiety may be optimal for intellectual performance.

### **The Current Study**

The main purpose of this study was to further test the principle of “distance equals safety” by examining the effects of distance priming on emotional and metacognitive experiences in real-life testing situations. For many, taking an evaluative test is an anxiety-provoking situation and invokes panic, worry, and tension. Priming distance may invoke a sense of safety and reduce test anxiety as well as feelings of test difficulty. Based on the reviewed literature on the emotional nature of psychological distance, it was expected that distance priming would particularly impact the emotionality aspect (e.g. test panic), but not necessarily the cognitive aspect (e.g. worry), of test anxiety. Specifically, I conducted a between-subjects lab experiment and adopted the priming method used by William and Bargh (2008). Participants were randomly assigned to one of the three priming conditions: distance-priming, closeness-priming, or control conditions. The main hypothesis was that the distance-priming group would report lower emotionality regarding their test and perceive lower test difficulty than would the closeness priming group, when controlling for their ability level. Even though there is no specific hypothesis upon the impact of distance priming on cognitive test anxiety, it would be presumed that if the manipulation had an effect on cognitive test anxiety, actual

test performance would also be impacted given the evidence that cognitive anxiety consistently impairs performance.

The other purpose of the study was to examine whether individuals' level of construal (or mental representation) may mediate the proposed relationship between perceived distance and emotionality. Based on the reviewed Construal Level Theory (CLT; Trope & Liberman, 2003), I hypothesized that distance-priming may yield a higher-level construal than closeness priming; and the higher-level construal, in turn, may lower emotionality. Construal level was measured with the Behavioral Identification Form (BIF; Vallacher & Wegner, 1989). The BIF identifies the level an action is performed at, either a high or low construal, and has been a staple measure of construal level in CLT research (e.g. Fujita, Trope, Liberman, & Levin-Sagi, 2006).

Finally, based on the test anxiety literature, the emotionality aspect of test anxiety plays a less influential role in performance than does cognitive test anxiety (e.g. Cassady & Johnson, 2002). Therefore, no specific hypothesis regarding actual test performance was proposed. Distance-priming may yield higher or lower test performance relative to closeness priming, depending on whether the resulting level of emotionality is at an average or optimal level.

## **Methodology**

### *Participants and Design*

Eighty-eight undergraduates were recruited from Western Kentucky University's study board using psychology 100 students. The average age of the participants was 19.58 years ( $SD = 2.73$ ). Participants received course credit for participation. Twelve participants were not included in the final analysis because they failed to follow

directions or failed to complete the manipulation, resulting in a final sample of seventy-four participants (58 females and 16 males). The common problems in failing to complete the distance-priming manipulation consisted of failing to locate the correct points on the Cartesian plane or failing to connect the points.

The experiment was a between-subjects design with distance-priming as the independent variable (distance versus closeness versus control); emotional and cognitive test anxiety, construal level, and perceived test difficulty as the main dependent variables; and ACT/SAT scores as the covariate.

### *Materials and Procedures*

The experiment was conducted in a classroom within the psychology building on campus. After the participants read and signed the consent form, they completed the demographic information form (age, gender, major, ACT/SAT scores). Following the demographics, they received a cover story for the experimental task – “the experimenters are interested in obtaining feedback on materials for a new type of intelligence test. Those who do well on this task tend to get better jobs and make more money after college”. The test contained a mixture of quantitative (for example, arithmetic, algebra and geometry), verbal (sentence completion and analogies), and reasoning questions. The cover story was also aimed to activate participants’ performance anxiety. They were instructed that their test scores would be compared with the performance of their peers at WKU; and that when they had completed the test, they would be provided with information regarding how they performed compared to their peers. Participants were given some difficult sample questions from the intelligence test, in order to provoke anxiety. The sample questions were chosen from a previously piloted study in which they

were shown to be difficult. Once the sample questions were completed, participants proceeded to the next tasks in the following order:

Distance-Priming task (see Appendix A): The task was adopted from the Williams and Bargh (2008) article using a Cartesian plane. Participants were asked to mark two points upon the plane and draw a line connecting them. One point was located in the first quadrant and the other in the third quadrant of the plane. The two points were either located closer or further away to the origin, depending on the priming condition participants were assigned to.

Behavioral Identification Form (Vallacher & Wegner, 1989; see Appendix B): The BIF is designed to measure two types of identification forms. It is a forced choice measure to discriminate between two construal levels: high or low. High level construal emphasizes *why* the action is being performed, whereas a low level construal emphasizes *how* the action is performed.

Test Anxiety Inventory (TAI; Spielberger et al., 1980; see Appendix C): The TAI consists of a total of twenty statements, with eight statements measuring each of the cognitive and emotional aspects, and four statements measuring general test anxiety ( $\alpha = .908$ ). Participants are asked to rate how much they agree with each statement out of a four point scale with four being the most ‘very much so’ to one being the least ‘not at all’. An example of a cognitive and emotional question would be “During this test I will find myself thinking about the consequences of failing,” and “I feel my heart beating very fast because of this test,” respectively.

Perceived Test Difficulty Rating and Performance Prediction: This measure consisted of two questions measuring perceived test difficulty. The first question was out

of a seven point Likert scale asking participants to rate their perceived difficulty of the upcoming test. The second question asked participants “how many questions out of twenty-five do you estimate answering correctly”.

Next was the intelligence test, which consisted of a total of 25 questions. The test consisted of a mixture of analytic and verbal questions of average difficulty. The questions were chosen from a previously piloted study conducted in an earlier semester that assessed their difficulty level. After the test, participants were again asked to rate perceived test difficulty and given a post-test judgment of performance. Finally, participants were thanked and awarded credits for participating.

## **Results**

A one-way between subjects ANCOVA was conducted to evaluate the effects of distance priming upon the emotionality of test anxiety, construal level, and perceived test difficulty, with the ACT scores as the covariate. The results showed that, counter to the hypotheses, there was no significant difference among the three priming groups in their emotional test anxiety, perceived test difficulty, or construal level,  $p > .05$ . *Table 1* provides the means and standard deviations of the groups on these measures (see Appendix D). The three priming groups did not differ in actual test performance either,  $p > .05$ .

Table 1. Means of ANCOVA's dependent measures

Measures	Condition	Mean (SD)
Behavior Identification Form (BIF)	Distant	33.52 (3.67)
	Close	32.25(3.62)
	Control	31.50 (4.39)
Test Anxiety Inventory (TAI)	Distant	29.61 (6.53)
	Close	28.50 (7.85)
	Control	32.17 (10.45)
TAI: Emotional Sub-Scale	Distant	11.30 (3.61)
	Close	11.00 (3.43)
	Control	12.33 (5.06)
TAI: Cognitive Sub-Scale	Distant	12.57 (2.83)
	Close	12.40 (3.78)
	Control	13.56 (4.84)
Pre-Test Difficulty	Distant	3.83 (1.40)
	Close	3.65 (1.46)
	Control	3.94 (1.21)
Pre-Test Estimate Correct	Distant	18.91 (3.38)
	Close	17.85 (3.62)
	Control	18.28 (4.23)
Test Score	Distant	14.30 (3.67)
	Close	13.40 (3.79)
	Control	15.17 (3.26)
Post-Test Difficulty	Distant	4.30 (1.06)
	Close	4.45 (0.95)
	Control	4.72 (1.27)
Post-Test Estimate Correct	Distant	16.00 (4.36)
	Close	15.40 (3.82)
	Control	15.94 (4.66)

An interesting finding was observed concerning participants' intellectual ability, showing that ACT scores were significantly correlated with cognitive test anxiety,  $r(72) = -.300, p < .01$ , but not with emotional test anxiety,  $p > .05$ . Specifically, as one's intellectual ability increased, their cognitive test anxiety decreased. However, one's intellectual ability did not seem to affect emotional test anxiety. Another interesting

finding was that participants' level of cognitive test anxiety was significantly negatively correlated with test performances,  $r(74) = -.255, p < .05$ , but emotional test anxiety was not,  $p > .05$ .

Figure 1. Correlation between ACT and cognitive test anxiety

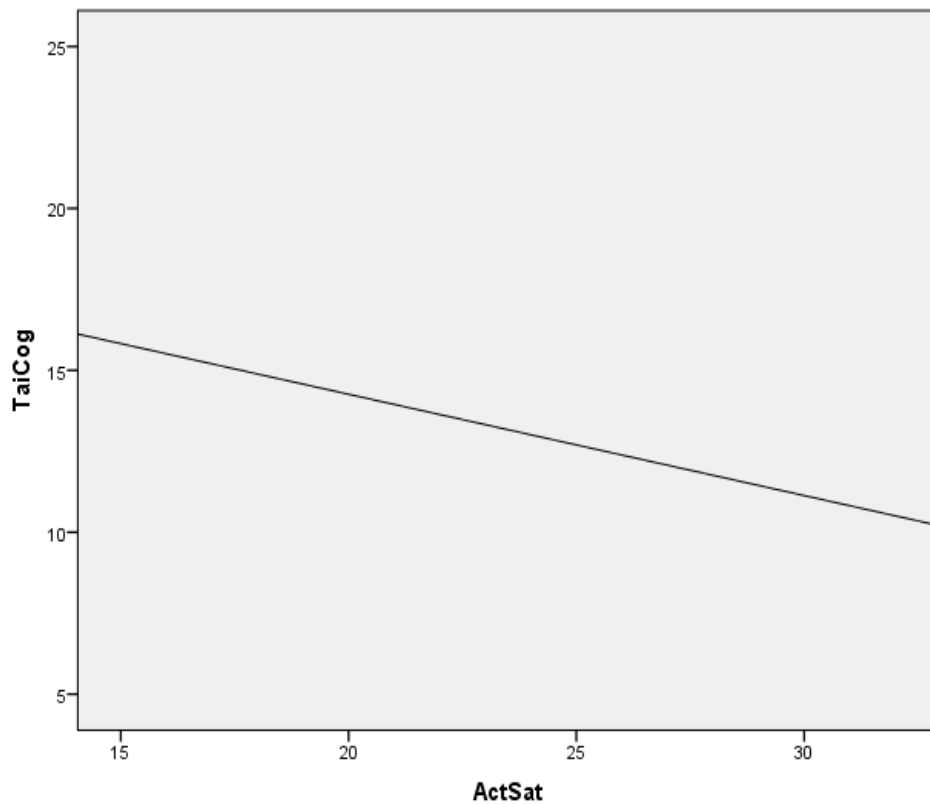
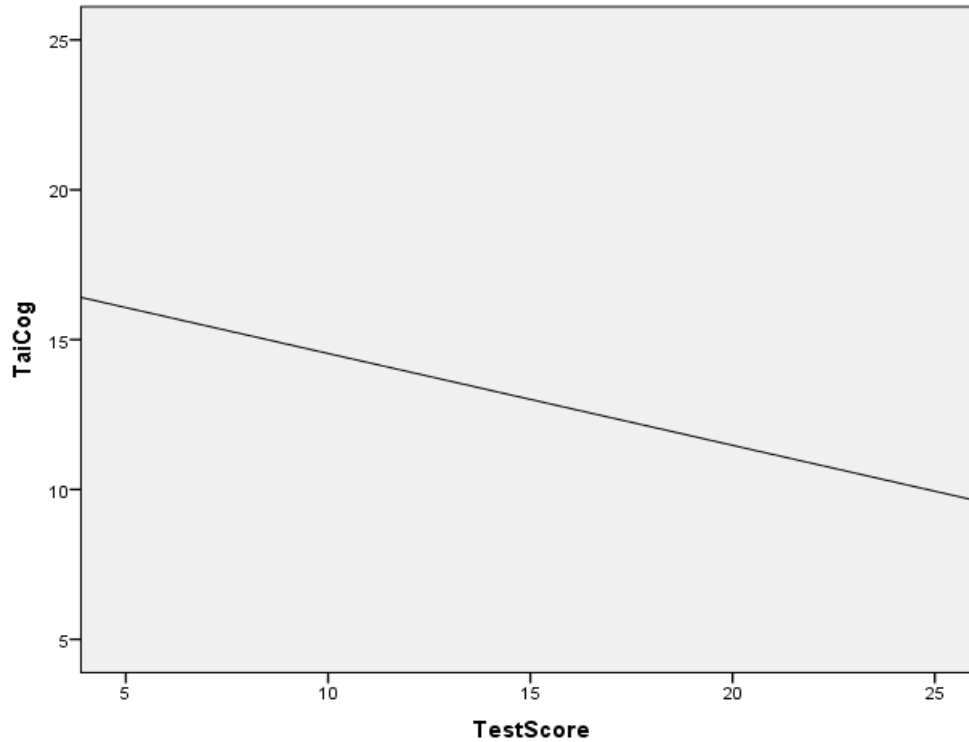


Figure 2. Correlation between test performance and cognitive test anxiety



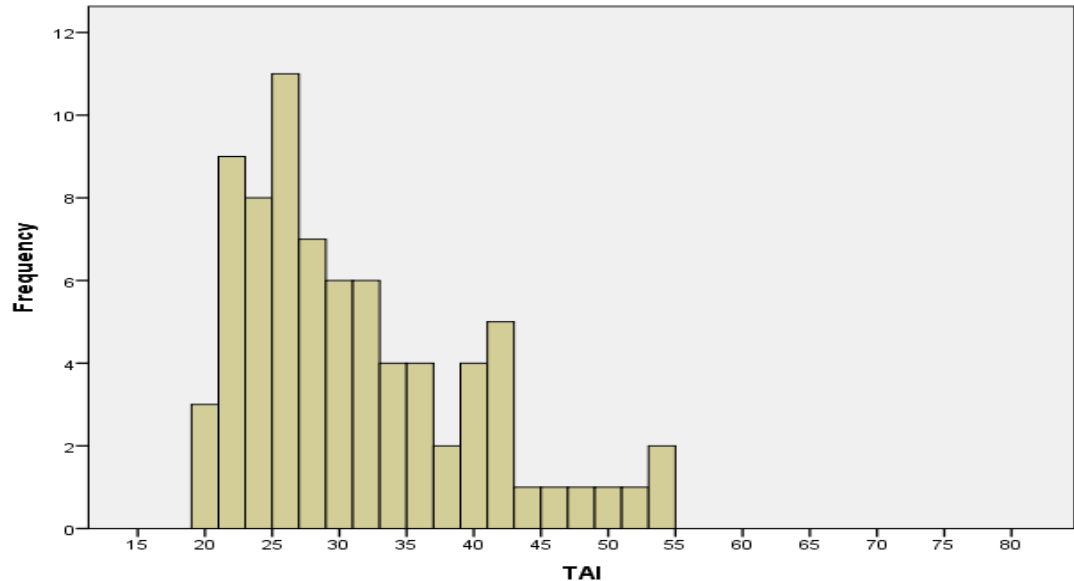
## Discussion

The results of the study did not offer support for the hypothesis that spatial distance priming (without reference to the self) reduces emotional test anxiety and perceived test difficulty. An important factor needs to be taken into consideration when interpreting the null findings, which is the low level of test anxiety observed in the study. The average score on the TAI measure was 30 (scale ranges from 20 – 80), which indicates that participants were not anxious about the upcoming test in the experiment. This could be due to the artificial nature of lab experiments. Despite using a cover story that participants' test performance would be compared with their peers', the experimental task failed to activate high performance anxiety. The psychological distance literature suggests that distance priming reduces negative emotion toward situations or scenes that elicit strong negative emotions. Therefore, further research on perceived distance and test



anxiety needs to ensure that the testing situation is indeed perceived to be anxiety provoking.

Figure 3. Histogram of TAI Scores



The spatial distance priming did not affect participants' construal level either, as measured by the BIF measure. A relationship between perceived distance and construal level should have been found regardless of the level of participant anxiety. As it is a well-established finding in the literature of psychological distance that greater perceived distance invokes a higher level of mental construal (e.g. Fujita, Trope, Liberman, & Levin-Sagi, 2006). This null finding may call into question the efficacy of the particular priming method used in the study. Although shown to be effective in a high-profile study (see Williams & Bargh, 2008), the priming method's effectiveness must be replicated across studies. As an independent attempt at replicating the efficacy of the priming method, the present study fails to show its effectiveness.

The findings of the correlations between intellectual ability and cognitive test anxiety and between cognitive test anxiety and test performance support previous literature. Specifically, the findings offer support for distinguishing the two components of test anxiety: emotionality and cognitive anxiety. It seems that people with higher intellectual ability worry or ruminate less, but are not necessarily less aroused physiologically and emotionally, than those with lower intellectual ability. The finding is in line with the evidence that cognitive test anxiety impairs intellectual performance (e.g. Cassidy & Johnson, 2002), whereas a moderate level of emotional anxiety may be optimal for intellectual performance (e.g. Glenn, 1980).

### *Limitations*

As previously mentioned, the main limitation of the study was the inability to provoke performance anxiety within a lab setting. The cover story used for the study emphasized that participants' test scores would be compared with their peers, but it failed to induce high anxiety. Possibly, if the study was conducted as a field experiment, specifically involving an actual test for one of their classes, higher anxiety might have been observed. Another consideration is that taking a test might not evoke emotions intense or threatening enough, and thus priming spatial distance will not affect test anxiety in the same way as it affects other affective experiences. Previous research examining how a threat is perceived (e.g. Threat Signal hypothesis, Cole, Balci, & Dunning, 2012) has used more direct, almost primitive, stimuli that would cause direct physical harm, to evoke feelings of fear. For example, some researchers used a real tarantula (Riskland, Moore, & Bowley, 1995) and others had participants stand on the balcony ledge (Stefanucci & Proffitt, 2009). These stimuli are very direct in that they can

cause direct physical harm. In comparison, test anxiety may be too mild to be a threatening emotion, especially test anxiety induced in a lab setting. In all, for future research to test the same principles, researchers will need to create an effective way of invoking anxiety within their participants.

The priming method adopted from Williams and Bargh (2008) was another area of concern, in that it may be too mild of a manipulation. This manipulation has only been reported in the Williams and Bargh (2008) study. Recently, the issue of replicability of priming effects has come under scrutiny within psychology (e.g. Yong, 2012), as researchers are finding it difficult to replicate previously published studies. Yong (2012) argued that once an article is published, it is very unlikely that an exact replication will occur, thus precipitating the possibility of building a house of cards with a shaky foundation. It may be useful to conduct an exact replication of the Williams and Bargh (2008) to inspect the efficacy of the priming method.

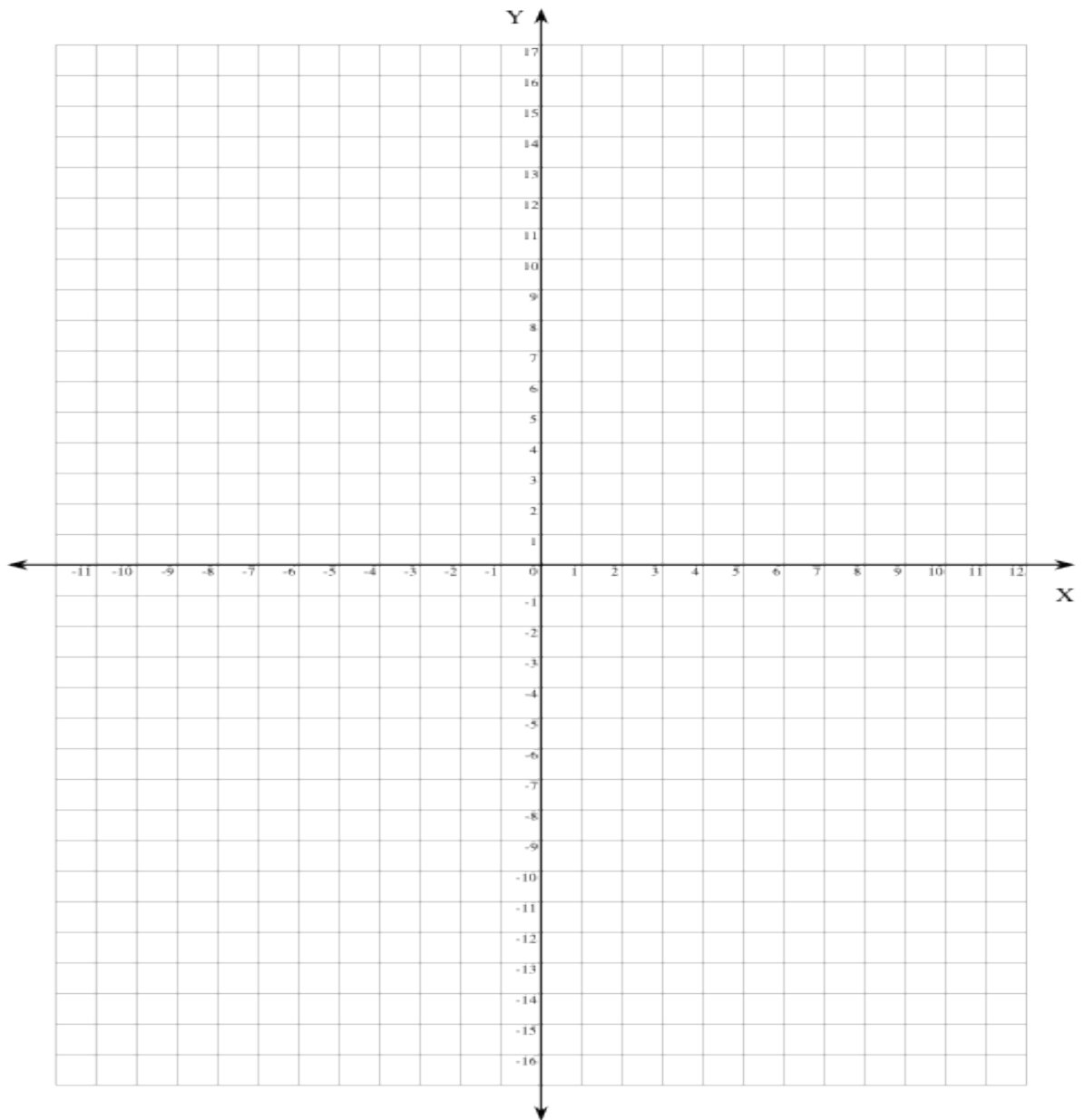
It also should be noted that the priming method used in this study has no reference to the self, but all the measures, such as the TAI, perceived difficulty and estimates of performance, all referenced the self. This inconsistency in referencing the self may be another explanation for the null findings. Future research may need to use a distance manipulation that references the self, which may make the manipulation more personal and thus may have a greater effect on test anxiety and judgment.

To conclude, in the current research spatial distance priming failed to show significant effects upon performance anxiety or judgment. Further studies will need to be conducted to replicate the efficacy of the priming method by Williams and Bargh (2008)

and to utilize new ways of provoking high performance anxiety. Another aspect would be replicating the study using a distance-priming method with reference to the self.

## Appendix A

Please locate the following points on the grid and draw a line connecting them:  $(2, 4)$  and  $(-3, -1)$  (or  $(11, 16)$  and  $(-9, -15)$ )



## Appendix B

### Behavioral Identification Form

Read each statement and select the appropriate response to indicate how you feel right now. Do not spend too much time on any one statement but give the answer that seems to describe the situation the best. Please choose A or B.

#### Reading:

- a. Following lines of print
- b. Gaining knowledge

#### Painting a Room:

- a. Applying the brush stroke
- b. Making the room look fresh

#### Washing Clothes

- a. Putting clothes into the machine
- b. Removing odors from clothes

#### Locking a Door:

- a. Putting a key in the lock
- b. Securing the house

#### Picking an Apple:

- a. Pulling an apple off a branch
- b. Getting something to eat

#### Climbing a Tree:

- a. Holding on to branches
- b. Getting a good view

#### Measuring a Room for Carpet:

- a. Using a yardstick
- b. Getting ready to remodel

#### Toothbrushing:

- a. Preventing tooth decay
- b. Moving a brush around one's mouth

Greeting Someone:

- a. Saying hello
- b. Showing friendliness

Chopping Down a Tree

- a. Wielding an axe
- b. Getting firewood

Resisting Temptation:

- a. Saying “no”
- b. Showing moral courage

Making a List:

- a. Getting organized
- b. Writing things down

Growing a Garden:

- a. Planting seeds
- b. Getting fresh vegetables

Joining the Army:

- a. Helping the Nation’s defense
- b. Signing up

Traveling by Car

- a. Following a map
- b. Seeing countryside

Cleaning the House:

- a. Showing one’s cleanliness
- b. Vacuuming the floor

Taking a Test:

- a. Answering Questions
- b. Showing one’s knowledge

Caring for Houseplants:

- a. Watering the plants
- b. Making the room look nice

Eating:

- a. Chewing and swallowing
- b. Getting nutrition

Voting:

- a. Influencing the election
- b. Marking a ballot

## Appendix C

### (State) Test Anxiety Inventory

There are 20 more test questions assessing quantitative and verbal skills. Read each statement and select the appropriate response to indicate how you feel about those upcoming questions right now. Do not spend too much time on any one statement but give the answer which seems to describe your present feelings best.

1	2	3	4
Not at all	A little	Somewhat	Very Much So

1. I feel confident and relaxed for the upcoming questions.
2. I have an uneasy upset feeling for the upcoming questions.
3. Thinking about my performance relative to my peers will interfere with my work on the questions.
4. I will freeze up on the questions.
5. During this test I will find myself thinking about whether I'll ever get through school.
6. The harder I work at the questions, the more confused I will get.
7. Thoughts of doing poorly will interfere with my concentration on the judgments.
8. I will feel very jittery when taking this test.
9. I feel very nervous about this test.
10. I will start feeling very uneasy just before getting this test back.
11. Because of this test I feel very tense.
12. I wish taking this did not bother me so much.



13. Because of this I am so tense that my stomach gets upset.
14. I will seem to defeat myself while working on this important test.
15. I feel very panicky about taking this important test.
16. I worried a great deal before taking this test.
17. During this test I will find myself thinking about the consequences of failing.
18. I feel my heart beating very fast because of this test.
19. After this exam is over I will try to stop worrying about it but I can't.
20. During this test I will get so nervous that I forget facts I really know.

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